

Action Required By: January 1, 2004

Purpose. To provide an explanation of certain FOTG automation needs and directions for creating eFOTG Conservation Management Guide Sheets (CMGs).

Expiration Date. December 31, 2004

Background. The purpose of the NRCS FOTG is to serve conservation planning and implementation, as well as other agency business functions. Evolution to an eFOTG is necessary to improve planning and decision making. Also, automated business processes need automated FOTG support.

Explanation. Modernization of business processes, in NRCS, will provide the foundation for the eFOTG. A critical step necessary for a functional eFOTG is inclusion of conservation management systems, their component practices, and effects. This effort will reduce workload for field employees as they prepare conservation plans, environmental evaluation worksheets, and develop conservation contracts. It will also make the estimated environmental performance outcomes of those planning activities available for internal uses, for other agency progress reporting, and for outcome modeling.

Currently, the Customer Service ToolKit is the primary field office conservation planning tool. Automation of conservation systems and their effects in eFOTG will give planners a powerful way to evaluate the effects of those systems as they develop conservation plans in ToolKit.

Also, work is proceeding to improve the functions of ToolKit, as well as to create an automated eFOTG to support it. A necessary part of this effort is to develop Common Resource Areas (CRA) and to develop a national CRA map. That work is important because the CRAs form the framework upon which further eFOTG automation will be built.

The second necessary part of this effort is to develop CMGs, which will record conservation management systems that are appropriate for each land use in the CRA. CMGs are to be developed and loaded on the automated system that will be ready in early October 2003. CMG automation combines some of the functions found in FOTG in Sections 3 and 5. Once completed and linked to ToolKit, CMGs will provide

DIST: S, R, L, Center and Institute Directors, Cooperating Scientists, and Regional Technology Specialists

key information regarding systems and their effects on specific resource concerns.

An added benefit of this project is that estimated conservation effects will be automatically incorporated into plans as they are formulated. This can eliminate the time currently taken to report progress and the impacts of our work. The new Performance Reporting System will work in the background to gather a wide range of progress information without requiring field office employees to open another software application.

The attached guidance outlines the process to complete CMGs. Data entry will be online via data entry screens currently under development by Information Technology Division to be available October 1, 2003.

CMGs are to be completed and entered by January 1, 2004.

National training is planned for early October 2003. You will be informed soon regarding the specifics of this training.

Contact. Please contact the Guide Sheet Project Coordinator, by telephone, at (701) 530-2030; or the National Agricultural Ecologist, Ecological Sciences Division, by telephone, at (202) 720-3921; if you have questions regarding this project or the procedures outlined in the attachment.

/s/

BRUCE I. KNIGHT
Chief

Attachments

Guidance for Establishing Conservation System Guides within eFOTG

Conservation System Guide Development Net Conference Access Information

**Guidance for Establishing Conservation Management Guide Sheets
within the
Electronic Field Office Technical Guide (eFOTG)**

Background

Conservation Management Guide Sheets within eFOTG bring together functions found within Sections 3 and 5 of the conventional FOTG. Specifically those functions are the conservation management systems (including Resource Management Systems (RMSs) and other alternative management systems) typical for specific land use or cover within a defined area, and the typical effect of conservation practices. The eFOTG Conservation Management Guide Sheets will provide estimated effects of practices toward the conservation purpose(s) of the system.

Conservation Management Guide Sheets will be established for established land uses within Common Resource Areas (CRAs) as appropriate. CRAs are being described within each State at this time (according to a letter from Chief Bruce Knight to State and Regional Conservationists signed August 12, 2003.)

Guidance

1. Data entry screens are planned to be available by October 1, 2003.
2. Common Resource Areas are the framework Guide Sheet Development. States are to create estimates of baseline conditions for established land uses within each CRA within the State. Baseline conditions are average values for all resource concerns appropriate to the land use. For this phase of Guide Sheet creation, States are to focus on mean annual rates for sheet-and-rill erosion, wind erosion, and for irrigation water use in acre-inches (as appropriate for the land use) within each CRA. (Other mean annual values for resource concerns may be added at this time if they are known.) These mean values may be derived from NRI information, estimated from existing planning guides and technical guide sections, or derived by other means.
3. In preparation to use the data entry screens, list the most frequently used Conservation Management Systems (RMS and other alternative management systems) for cropland, pastureland, and range land as appropriate within each CRA along with the conservation practices that comprise them.
4. Estimate and record the average annual effect of each system on each appropriate resource concern. This will be recorded as resource concern level after installation of the system. For example, if the average annual sheet-and-rill erosion on cropland in CRA 9.1 is 10 tons per acre, the effect of Conservation Management System 3 would be recorded as its typical erosion rate following installation.
5. For primary conservation practices within each management system, estimate their individual contribution to the overall system effect in terms of percent contribution. All percents will add to 100. For example, if the system were comprised of Conservation Crop Rotation (328), Subsurface Drain (606), Surface Drainage – Field Ditch (607) , and Irrigation System – Sprinkler (442), only effects of Conservation Crop Rotation and Irrigation System – Sprinkler would be entered.
6. Systems and their estimated effects are to be coordinated with adjoining States that share CRAs. Regional Technology Specialists may be called upon to help facilitate this process.
7. Guide Sheets created using automated entry screens should be checked to make sure data are correctly entered.

**Conservation System Guide Development
Net Conference Access Information**

A. The first net conference will be held from 2:30 to 4:00 PM Eastern Daylight Time, October 15, 2003:

AUDIO PARTICIPANT ACCESS INFORMATION

CALL DATE: OCT-15-2003 (Wednesday)
CALL TIME: 02:30 PM EASTERN TIME
DURATION: 1 hr 30 min
LEADER: MARC SAFLEY
USA Toll Free Number: 888-566-5787
PASSCODE: CSG

For security reasons, the passcode and the leader's name will be required to join your call.

NET CONFERENCING PARTICIPANT ACCESS INFORMATION

URL: <https://www.mymeetings.com/nc/join/>
CONFERENCE NUMBER: PG7663334
AUDIENCE PASSCODE: CSG

You can join the event directly at:

<https://www.mymeetings.com/nc/join.php?i=PG7663334&p=CSG&t=c>

To access the Net replay of this call, go to:

<https://www.mymeetings.com/nc/join.php?i=PG7663334&p=CSG&t=r>

The replay will be available for 30 days, ending November 14, 2003.

B. The second session is planned for 12:00 Noon to 1:30PM Eastern Daylight Time on October 21, 2003:

AUDIO PARTICIPANT ACCESS INFORMATION

CALL DATE: OCT-21-2003 (Tuesday)
CALL TIME: 12:00 PM EASTERN TIME
DURATION: 1 hr 30 min
LEADER: MARC SAFLEY
USA Toll Free Number: 888-566-5787
PASSCODE: CSG

For security reasons, the passcode and the leader's name will be required to join your call.

NET CONFERENCING PARTICIPANT ACCESS INFORMATION

URL: <https://www.mymeetings.com/nc/join/>
CONFERENCE NUMBER: PH7663430
AUDIENCE PASSCODE: CSG

You can join the event directly at:

<https://www.mymeetings.com/nc/join.php?i=PH7663430&p=CSG&t=c>

National Bulletin: 330-4-6

April 6, 2004

Subject: MGT – Performance Results System

Purpose. Changes to Performance Results System.

Expiration Date. October 1, 2004

Background. The Performance Results System (PRS) became operational during October and November of 2003. The initial PRS design was developed to optimize the anticipated Next Generation Toolkit and Conservation System Guide design and to get the basic PRS application delivered and functional. We continue to refine the PRS application and structure it to make the interim reporting for fiscal year (FY) 2004 and beyond easier.

Explanation. The following on-going efforts to minimize the field workload associated with reporting progress in PRS were implemented during the week of March 15-19, 2004. These improvements will greatly reduce the time required to report FY 2004 and future progress. Changes are described below. Detailed changes to the PRS user's manual will be completed by April 1 and will be accessible through the MY.NRCS Accountability Tab under PRS.

1. The requirement to locate each land unit on a map has been changed to only require one map pin location per tract. Once a user places a pin for one land unit within a tract, an inferred lat/long is automatically used for the remaining land units associated with that tract. With this change, only one map pin has to be placed for each tract, in order to report progress for the land units associated with the tract, thereby reducing the workload associated with locating each land unit. Users can still place a pin on a map for each land unit if they desire to record the location more accurately. For Toolkit users that have uploaded digitized lat/long coordinates through Toolkit check in wizard, there is no change; the lat/long coordinates will continue to be uploaded. The requirement to locate each land unit will resume in the future as the integration of the systems continues. More exact location data will be needed for modeling outcomes, and as next generation toolkit is used to digitize land units, the process of locating performance will become easier.
2. The PRS land unit detail screen is modified to eliminate the need to identify a primary resource concern. This is a permanent change to the PRS application. For analysis purposes at the national level, inferred primary resource concerns will be possible through the linkage with the Conservation System Guides (CSG's). Absolute changes for a resource concern for each practice will be possible through the linkage to the CSG's, as soon as measurement units are defined for each resource concern and states are able to populate the effect of each practice for the resource concerns.
3. The PRS Land Unit Detail screen is modified to make the linkage of a conservation system (from the CSG

DIST: E

The Natural Resources Conservation Service provides leadership in a partnership effort to help conserve, maintain, and improve our natural resources and environment

AN EQUAL OPPORTUNITY EMPLOYER

application) temporarily optional. Users are encouraged to continue linking a CSG with each land unit as this will assist in determining the accomplishments for some of the national performance measures. In order to assist users that decide to continue linking a conservation management system to each land unit, the following changes have been made to the Land Unit Detail screen.

- After selecting one conservation system, a user may use the copy paste feature to link the same conservation system to any other land units in the plan that have the same land use. To use the copy paste feature, first link a conservation system to any land unit, then select the copy key (it will turn green when selected) then paste it to the other land units, as applicable.
- The PRS Add Land Unit dialogue box is expanded to allow the user to see more detail about the management system descriptions they may wish to select. An optional filter for Conservation System Guides for States with many guides within a CRA and Land Use is added.

These changes to PRS will allow States additional time for developing and deploying quality CSG's. It should be noted that the primary use of CSG's is for planning purposes in the next generation toolkit and the use of CSG's for PRS is an added benefit that reduces the workload on the field associated with reporting physical impacts of practices. It is anticipated that mandatory linkage of the land unit with a CSG will occur upon the release of the Next Generation Toolkit.

4. PRS has been modified to allow viewing of a plan and associated practices within PRS prior to the user having to record the plan date, who did the work or making a CNMP determination. If a user decides to enter progress for the plan, then the plan date, who completed the work, and the CNMP determination must be entered prior to reporting progress. This reduces the workload of having to record this information for plans where progress reporting is not needed.
5. Resource Management Systems (RMS) designations (planned or applied) will not be goaled, or reported within PRS or otherwise. It will continue to be the goal of the Agency to assist landowners to achieve RMS level plans; however, the reporting of RMS's within PRS is not required. The tracking of when a conservation system becomes a RMS within the PRS application is too burdensome to justify the field to populate the data. The Agency will still be able to monitor the use of RMS' for analysis purposes through CSG's usage in Toolkit.
6. Practice measurement units are aligned with the National Conservation Practice reporting standards and with toolkit check in wizard, thereby eliminating the need to change reporting units in PRS. All web applications within NRCS will use the same standard list of practice measurement units.

Next Steps in PRS

1. Finish 80 percent of reports by April 15, 2004, including adding program spinners for practice level reports. Those goal reports dependent upon linkage to CSG's to obtain required physical effects information will not be completed until the linking of CSG's is mandatory.

2. Finish view prior entries and data checker.
3. Make state and local programs available.
4. Revise goals business rules and complete PRS goals application.

Contact. For further information, please contact the Integrated Accountability System Coordinator, at (817) 509-3299.

/s/

KATHERINE C. GUGULIS
Deputy Chief
Strategic Planning and Accountability

Purpose. To announce that the National Coordinated CRA Geographic Database Version 1.1 is now complete for the Nation.

Expiration Date. September 30, 2004

Background. A CRA map delineation is defined as a geographical area where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) map delineation or polygon. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a CRA (Title 450, Technology, General Manual, Part 401, Technical Guides, Section 401.21, Definitions).

Explanation. The National Coordinated CRA Geographic Database, Version 1.1, provides:

- 1) A consistent CRA geographic database;
- 2) CRA geographic data compatible with other Geographic Information System (GIS) data digitized from 1:250,000 scale maps, such as land use/land cover, political boundaries, Digital General Soil Map of the U.S. (updated STATSGO), and ecoregion boundaries;
- 3) A consistent (correlated) geographic index for Conservation Management Guide Sheet information and the electronic Field Office Technical Guide (eFOTG); and
- 4) A geographic linkage with the national MLRA framework.

DIST: S, R, L, Center and Institute Directors, Cooperating Scientists, and Regional Technology Specialists

The Natural Resources Conservation Service provides leadership in a partnership effort to help conserve, maintain, and improve our natural resources and environment

AN EQUAL OPPORTUNITY EMPLOYER

These GIS data products may be electronically downloaded for agency use from a protected ftp site. More information regarding access to these data products is found at <http://soils.usda.gov/scientists.html> (click on "National Coordinated Common Resource Area (CRA) Geographic Database").

The National Coordinated CRA Geographic Database will be updated annually. Policy regarding the update process will be issued during Fiscal Year 2004.

Contact. Please contact the Director, National Soil Survey Center, by telephone at (402) 437-5499, should you have any questions or wish to report errata.

/s/

MAURICE J. MAUSBACH
Deputy Chief
Soil Survey and Resource Assessment

National Bulletin: 450-4-10

June 14, 2004

Subject: TCH – COMPLETING AND FILING CONSERVATION SYSTEM GUIDES (CSG) IN THE
FIELD OFFICE TECHNICAL GUIDE (FOTG)

Action Required By: October 1, 2004

Purpose. To notify State Conservationists and Directors, Pacific Basin and Caribbean Areas, of the need to complete CSG for proper filing in the FOTG and for use in the Customer Service Tool Kit and the Progress Reporting System (PRS).

Expiration Date. June 1, 2005

Background. The FOTG is now available for use by everyone through either <http://my.nrcs.usda.gov> or connections to the electronic FOTG (eFOTG) Web sites. In an effort to make each FOTG more “user friendly” the National Technical Guide Committee (NTGC) has worked with the National Information Technology Center (NITC) and National Headquarters technical leaders to develop some changes. Please note that the eFOTG reference means the local FOTG contained in the Web Farm at NITC.

Changes to the CSG are being implemented. These changes are now in effect and are available to all States for use. National Bulletin 330-4-6, Performance Results System, http://policy.nrcs.usda.gov/scripts/lpsiis.dll/NB/NB_330_4_6.htm, describes several changes in how CSG information will be used with Customer Service Toolkit and the Progress Reporting System.

Explanation. To prepare for full implementation, State Conservationists and Directors, Pacific Basin and Caribbean Areas, need to complete and file their CSG and Conservation Systems so that they are fully operational by Friday, October 1, 2004.

This includes completing:

1. CSG with threshold values as applicable, for all Common Resource Areas and appropriate land uses; and

DIST: S, R, L, Center and Institute Directors, Cooperating Scientists, and Regional Technology Specialists

The Natural Resources Conservation Service provides leadership in a partnership effort to help conserve, maintain, and improve our natural resources and environment

AN EQUAL OPPORTUNITY EMPLOYER

2. CSG which will contain one or more Conservation Systems.

This also includes the following filing responsibilities:

1. Replace the existing Resource Management System Guide Sheets in the FOTG Section III with the appropriate CSG;
2. Ensure there is consistency between hard copies and electronic CSG in the database; and
3. Ensure that Content Managers for eFOTG provide appropriate linkage for the CSG database to section III of the eFOTG. (NITC will provide standardized reports with the methodology to make the linkage from CSG to eFOTG.)

Accomplishment of the above will allow the Customer Service Toolkit to use the Conservation Systems for planning purposes and the PRS to harvest physical effects of the practices.

Two attachments provide additional information for completing and filing CSG and editing State resource concerns and threshold values on the CSG Web site.

Contact. If you have any questions, contact the NTGC Executive Secretary at (202) 720-0307.

/s/ Ronald L. Marlow for

LAWRENCE E. CLARK
Deputy Chief
Science and Technology

Attachment A – Special Considerations for completing and filing CSG in the FOTG

Attachment B – CSG Changes

Attachment A

Special Considerations for completing and filing Conservation System Guides (CSG) in the Field Office Technical Guide (FOTG):

1. Development of CSGs using all resource concerns – Currently there are 26 National Resource Concerns, plus one Regional. These have measurement units that are now available for use in developing CSG. The remaining 45 will soon be available for use.
2. Note to CSG Editors: please refer to the attached April 21, 2004 e-mail from Phil Smith titled “CSG Changes - Threshold Value, State Resource Concerns.”
3. Initial uses of threshold values will include accounting for performance measures that need to compare the field condition to the threshold value. This value is set by legal requirements and agency policy. At a minimum threshold values will address an impairment threshold established by Cooperative Extension Service or other field specialists. An example is Soil Loss Tolerance or T and the performance measure that accounts for the acres that were reduced from above T to below T. Other uses include program tools for ranking, eligibility, etc.
4. Beginning with Fiscal Year 2005, Performance Reporting System (PRS) will require a minimum amount of information within each CSG for each land use within each Common Resource Area (CRA). At this time, State Conservationists and Directors, Pacific Basin and Caribbean Areas are to:
 - a. Develop CSG for each applicable land use in each CRA. This includes urban land, if reporting of plans and practices is expected on urban lands;
 - b. Identify the primary resource concern for each Conservation System;
 - c. Populate the threshold value for Soil Erosion - Sheet and Rill resource concerns for each CSG, as applicable;
 - d. Populate the threshold value for Soil Erosion - Wind resource concerns for each CSG, as applicable;
 - e. Populate the threshold value for Water Quantity - Inefficient water use on irrigated lands resource concerns for each CSG, as applicable;
 - f. Populate the threshold value for Water Quantity - Inefficient water use on nonirrigated lands resource concerns for each CSG, as applicable;
 - g. Other resource concern information will likely become mandatory in the future as NRCS continues to negotiate our performance goals with the Office of Management Budget and the Department. Guidance on the list of national performance measures and the computation methodology will be forthcoming.
 - h. States are to use the guidance on Resource Concerns and definitions contained in the FOTG Section III. Additional information and definitions are contained in the CSG Web site and the National Planning Procedures Handbook.

Attachment B

-----Original Message-----

From: Smith, Phil

Sent: Wednesday, April 21, 2004 7:22 AM

To: eFOTG@lists.nrcs.usda.gov%INTER2

Subject: CSG Changes - Threshold Value, State Resource Concerns

Two changes were made to Conservation System Guide website Tuesday evening.

First change is the addition of a button called "State Resource Concerns" located on the blue bar of the CSG Edit Page. Clicking this button displays a screen that lists all 72 National Resource Concerns, plus one regional concern. All resource concerns are initially checked. If your state is NOT concerned with a resource concern, simply uncheck that resource concern. That resource concern will NOT be available to be added to any new or existing Conservation System Guides in the future. If it was already associated with a previously entered Conservation System Guide, it will continue to be listed for that Guide. You should only need to edit this page one time. However, you can go back and remove, or add resource concerns in the future.

Second change is the addition of a 'Threshold Value' for each resource concern. These are displayed near the baseline values on the Conservation System Guides and Conservation Systems. Threshold values can be managed from the Conservation System Guide or System level. If you add, or edit a value at the Conservation System Guide level, the new Threshold value will cascade into all Conservation Systems associated with that Guide. If you edit a Threshold value at the System level, it will NOT change the Guide value, or any other Threshold value for any other System. If you edit or change a Threshold value for a Guide, all Systems associated with that guide will be changed, EXCEPT System that was previously edited will not change. in other words when you edit a Threshold value for a System, you permanently disconnect the Threshold value from that edited System to it's parent Guide.

Initial uses of the Threshold values will include accounting for performance measures that need to compare the field condition to the Threshold value.

An example is Soil Loss Tolerance or "T" and the performance measure that accounts for the acres that were reduced from above T to below T. Other uses include program tools for ranking, eligibility, etc.

o^o o^o o^o o^o o^o o^o o^o

Phil Smith

Project Manager

NRCS - ITC

2150 Centre Avenue, Bldg. A

Fort Collins, CO 80526-1891

(970) 295-5478

Fax (970) 295-5414

Phil.Smith2@usda.gov

National Bulletin: 450-5-8

January 31, 2005

Subject: TCH – COMPLETING AND FILING MEASUREMENT UNITS FOR RESOURCE CONCERNS
IN THE FIELD OFFICE TECHNICAL GUIDE (FOTG)

Action Required By: February 28, 2005

Purpose. To provide additional information and guidance for completing and filing Measurement Units for Resource Concerns in the FOTG.

Expiration Date. December 31, 2005

Background. The FOTG contains guidance on identification of Resource Concerns and Quality Criteria. States have received instructions to develop Conservation System Guides and Conservation Systems in the appropriate database for Common Resource Areas by land use, as well as providing typical systems in Section III of the FOTG. Previously, not all Resource Concerns were available for use in the database, because the Measurement Units were not available.

Based on requests from State-level and technical specialists, the National Resource Concerns Table has also been modified. Resource concerns have been added and descriptions modified. In addition, a comprehensive list of Measurement Units for each of the Resource Concerns has been developed. This list will assist FOTG users and planners, as well as allow employees in the States and Pacific Basin and Caribbean Areas to use all Resource Concerns while developing Conservation System Guides and Conservation Systems. These Measurement Units will also be used for performance reporting beginning in Fiscal Year (FY) 2005.

Explanation. Attached is a National Resource Concerns Table with corresponding Description of Concerns, Quality Criteria, and Measurement Units for each. Where possible, we have listed Measurement Units that match the Resource Concern and the Quality Criteria statement. These are calculated using existing tools. (However, many of the Resource Concerns or the Quality Criteria are not quantifiable, or suitable tools needed to calculate Measurement Units are not readily available.) For reporting performance for quantifiable Resource Concerns, the effect is the amount of improvement from the baseline condition to the system impact condition.

DIST: S, R, L, and National Center Directors

For Resource Concerns not readily quantifiable, the term Non Measurable is used. For Conservation System Guides, the Resource Concerns will be divided into Measurable Resource Concerns and Non Measurable Resource Concerns. The Performance Results System contains reports for these nonquantifiable Resource Concerns for performance reporting purposes. These automated reports indicate how many acres of conservation plans have been planned or applied for each resource concern. Remember that thresholds are optional for all but a few Resource Concerns, and thresholds will not be entered for Non Measurable Resource Concerns. The amount of the impact will not be known (since they are nonquantifiable), only that the resource concern has been identified and addressed with a positive impact.

The NRCS National Information Technology Center has modified all Measurement Units in the Conservation System Guide database. This modification allows States and Pacific Basin and Caribbean Areas to address all applicable Resource Concerns while developing Conservation System Guides and Conservation Systems, thus allowing development of complete Resource Management Systems. States and Pacific Basin and Caribbean Areas will continue to divide the percentage impact on the Resource Concern among conservation practices when developing Conservation System Guides and Conservation Systems. The allocation of percentages among practices will allow easy conversion in the future as Measurement Units are developed for Resource Concerns. Utilizing this method will also allow reporting of performance, which can be used to develop environmental outcomes.

By Monday, February 28, 2005, States and Pacific Basin and Caribbean Areas are to:

1. Modify the FOTG, Section III Resource Concern Table to include the column "Measurement Units" just to the right of the column "National Quality Criteria." This column will contain the appropriate information from the National Resource Concerns Table;
2. Fully develop local, State, or NTSC area Resource Concerns that are not addressed by National Resource Concerns (this includes Descriptions of Concern, Quality Criteria, Measurement Units, and tools); and
3. After completing actions one and two, send a copy of the State Resource Concerns table to the Executive Secretary of the National Technical Guide Committee for review by e-mail to bill.boyer@usda.gov. Refer to National Bulletin 450-4-10, TCH – COMPLETING AND FILING CONSERVATION SYSTEM GUIDES (CSG) IN THE FIELD OFFICE TECHNICAL GUIDE (FOTG), dated June 14, 2004, copy attached.

Additional definitions and guidance for the various Quality Criteria statements and Measurement Units will be provided in the future and discussed via teleconference.

Contact. If you have questions or need additional information regarding definitions and guidance for the various Quality Criteria statements and Measurement Units, please contact the national discipline leader responsible for the subject in question. If you have any questions concerning this bulletin, please contact the Executive Secretary, National Technical Guide Committee, Ecological Sciences Division, at (202) 720-0307.

/s/ Marc Safley for

LAWRENCE E. CLARK
Deputy Chief
Science and Technology

Attachment A – National Bulletin 450-4-10, Completing and Filing CSG in the FOTG
Attachment B – National Resource Concerns Table

National Bulletin: 450-4-10

June 14, 2004

Subject: TCH – COMPLETING AND FILING CONSERVATION SYSTEM GUIDES (CSG) IN THE
FIELD OFFICE TECHNICAL GUIDE (FOTG)

Action Required By: October 1, 2004

Purpose. To notify State Conservationists and Directors, Pacific Basin and Caribbean Areas, of the need to complete CSG for proper filing in the FOTG and for use in the Customer Service Tool Kit and the Progress Reporting System (PRS).

Expiration Date. June 1, 2005

Background. The FOTG is now available for use by everyone through either <http://my.nrcs.usda.gov> or connections to the electronic FOTG (eFOTG) Web sites. In an effort to make each FOTG more “user friendly” the National Technical Guide Committee (NTGC) has worked with the National Information Technology Center (NITC) and National Headquarters technical leaders to develop some changes. Please note that the eFOTG reference means the local FOTG contained in the Web Farm at NITC.

Changes to the CSG are being implemented. These changes are now in effect and are available to all States for use. National Bulletin 330-4-6, Performance Results System, http://policy.nrcs.usda.gov/scripts/lpsiis.dll/NB/NB_330_4_6.htm, describes several changes in how CSG information will be used with Customer Service Toolkit and the Progress Reporting System.

Explanation. To prepare for full implementation, State Conservationists and Directors, Pacific Basin and Caribbean Areas, need to complete and file their CSG and Conservation Systems so that they are fully operational by Friday, October 1, 2004.

This includes completing:

1. CSG with threshold values as applicable, for all Common Resource Areas and appropriate land uses; and

DIST: S, R, L, Center and Institute Directors, Cooperating Scientists, and Regional Technology Specialists

The Natural Resources Conservation Service provides leadership in a partnership effort to help conserve, maintain, and improve our natural resources and environment

AN EQUAL OPPORTUNITY EMPLOYER

2. CSG which will contain one or more Conservation Systems.

This also includes the following filing responsibilities:

1. Replace the existing Resource Management System Guide Sheets in the FOTG Section III with the appropriate CSG;
2. Ensure there is consistency between hard copies and electronic CSG in the database; and
3. Ensure that Content Managers for eFOTG provide appropriate linkage for the CSG database to section III of the eFOTG. (NITC will provide standardized reports with the methodology to make the linkage from CSG to eFOTG.)

Accomplishment of the above will allow the Customer Service Toolkit to use the Conservation Systems for planning purposes and the PRS to harvest physical effects of the practices.

Two attachments provide additional information for completing and filing CSG and editing State resource concerns and threshold values on the CSG Web site.

Contact. If you have any questions, contact the NTGC Executive Secretary at (202) 720-0307.

/s/ Ronald L. Marlow for

LAWRENCE E. CLARK
Deputy Chief
Science and Technology

[Attachment A – Special Considerations for completing and filing CSG in the FOTG](#)
[Attachment B – CSG Changes](#)

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Soil Erosion – Sheet and Rill	Detachment and transport of soil particles caused by rainfall splash and runoff degrade soil quality.	Sheet and rill erosion does not exceed the Soil Loss Tolerance “T”.	Tons/Acre/Year – average annual tons of erosion reduced per acre for the field or planning area/unit
Soil Erosion – Wind	Detachment and transport of soil particles caused by wind degrade soil quality and/or damage plants.	Wind erosion does not exceed the Soil Loss Tolerance “T” or, for plant damage, does not exceed Crop Damage Tolerances.	Tons/Acre/Year – average annual tons of erosion reduced per acre for the field or planning area/unit
Soil Erosion – Ephemeral Gully	Small channels caused by surface water runoff degrade soil quality and tend to increase in size. On cropland, they can be obscured by heavy tillage.	Surface water runoff is controlled sufficiently to stabilize the small channels and prevent reoccurrence of new channels.	Tons/Year – average annual tons of erosion reduced for the field or planning area/unit
Soil Erosion – Classic Gully	Deep, permanent channels caused by the convergence of surface runoff degrade soil quality. They enlarge progressively by head cutting and lateral widening.	Surface water runoff is controlled sufficiently to stop progression of head cutting and widening.	Tons/Year – average annual tons of erosion reduced for the field or planning area/unit
Soil Erosion – Streambank	Accelerated loss of streambank soils restricts land and water use and management.	Accelerated streambank soil loss does not exceed a level commensurate with upstream land use and normal geomorphologic processes on site.	Tons/Year – average annual tons of erosion reduced for the field or planning area/unit
Soil Erosion – Shoreline	Soil is eroded along shorelines by wind and wave action, causing physical damage to vegetation, limiting land use, or creating a safety hazard.	Shoreline erosion is stabilized to a level that does not restrict the use or management of adjacent land, water or structures.	Tons/Year – average annual tons of erosion reduced for the field or planning area/unit
Soil Erosion – Irrigation induced	Improper irrigation water application and equipment operation are causing soil erosion that degrades soil quality.	Irrigation induced erosion does not exceed the Soil Loss Tolerance “T”.	Tons/Acre/Year – average annual tons of erosion reduced per acre for the field or planning area/unit
Soil Erosion – Mass Movement	Soil slippage, landslides, or slope failures, normally on hillsides, result in large volumes of soil and rock movement.	Shallow slumps, slides, or slips are prevented or minimized so that the mass movement of earth material does not exceed naturally occurring rates.	Tons/Year – average annual tons of erosion reduced for the field or planning area/unit
Soil Erosion – Road, Roadsides and Construction Sites	Soil loss occurs on areas left unprotected during or after road building and/or construction activities.	Sites are adequately protected from soil loss during and after road building and construction activities.	Tons/Year – average annual tons of erosion reduced for the field or planning area/unit

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Soil Condition – Organic Matter Depletion	Soil organic matter has lowered or will diminish to a level that degrades soil quality.	Soil Conditioning Index is positive.	Soil Conditioning Index improvement – positive improvement in index for the field or planning area/unit
Soil Condition – Rangeland Site Stability	The capacity to limit redistribution and loss of soil resources (including nutrients and organic matter) by wind and water.	Indicators of Rangeland Health Attribute rating for Soil/Site Stability show Slight to Moderate or less departure from Ecological Reference Sheet (ESD).	Departure from Ecological Reference Sheet (ESD) categories – amount of departure, by numeric value, from Ecological Reference Sheet for the field or planning area/unit. 1=None to Slight, 2=Slight to Moderate, 3=Moderate, 4=Moderate to Extreme, or 5=Extreme.
Soil Condition – Compaction	Compressed soil particles and aggregates caused by mechanical compaction adversely affect plant-soil-moisture relationships.	Mechanically compacted soils are renovated sufficiently to restore plant root growth and/or water movement.	Non Measurable
Soil Condition – Subsidence	Loss of volume and depth of organic soils due to oxidation caused by above-normal microbial activity resulting from excessive drainage or extended drought.	The timing and regime of soil moisture is managed to attain acceptable subsidence rates.	Inches/Acre/Year – average annual inches of subsidence reduced per acre for the field or planning area/unit
Soil Condition – Contaminants: Salts and Other Chemicals	Inorganic chemical elements and compounds such as salts, selenium, boron, and heavy metals restrict the desired use of the soil or exceed the soil buffering capacity.	Salinity levels cause less than a 10% decrease in plant yield. Other contaminants do not exceed plant tolerances or are below toxic levels for plants or animals.	Electrical Conductivity (EC) – average reduction in EC for the field or planning area/unit
Soil Condition – Contaminants: Animal Waste and Other Organics – N	Nitrogen nutrient levels from applied animal waste and other organics restrict desired use of the land.	Nitrogen nutrient application levels do not exceed soil storage/plant uptake capacities based on soil test recommendations and risk analysis results.	Pounds/Acre/Year – average annual pounds of nitrogen (N) reduced per acre for the field or planning area/unit
Soil Condition – Contaminants: Animal Waste and Other Organics – P	Phosphorus nutrient levels from applied animal waste and other organics restrict desired use of the land.	Phosphorus nutrient application levels do not exceed soil storage/plant uptake capacities based on soil test recommendations and risk analysis results.	Pounds/Acre/Year – average annual pounds of phosphorus (P) reduced per acre for the field or planning area/unit
Soil Condition – Contaminants: Animal Waste and Other Organics – K	Potassium nutrient levels from applied animal waste and other organics restrict desired use of the land.	Potassium nutrient application levels do not exceed soil storage/plant uptake capacities based on soil test recommendations and risk analysis results.	Pounds/Acre/Year – average annual pounds of potassium (K) reduced per acre for the field or planning area/unit

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Soil Condition – Contaminants: Commercial Fertilizer – N	Over application of nitrogen degrades plant health and vigor or exceeds the soil capacity to retain nutrients.	Soil nutrient levels of nitrogen do not exceed crop needs based on realistic yield goals, and appropriate pH levels are maintained.	Pounds/Acre/Year – average annual pounds of nitrogen (N) reduced per acre for the field or planning area/unit
Soil Condition – Contaminants: Commercial Fertilizer – P	Over application of phosphorus degrades plant health and vigor or exceeds the soil capacity to retain nutrients.	Soil nutrient levels of phosphorus do not exceed crop needs based on realistic yield goals, and appropriate pH levels are maintained.	Pounds/Acre/Year – average annual pounds of phosphorus (P) reduced per acre for the field or planning area/unit
Soil Condition – Contaminants: Commercial Fertilizer – K	Over application of potassium degrades plant health and vigor or exceeds the soil capacity to retain nutrients.	Soil nutrient levels of potassium do not exceed crop needs based on realistic yield goals, and appropriate pH levels are maintained.	Pounds/Acre/Year – average annual pounds of potassium (K) reduced per acre for the field or planning area/unit
Soil Condition – Contaminants: Residual Pesticides	Residual pesticides in the soil have an adverse effect on non-targeted plants and animals.	Pesticides are applied, stored, handled, and disposed of, so that residues in the soil do not adversely affect non-targeted plants and animals.	Non Measurable
Soil Condition – Damage from Sediment Deposition	Sediment deposition damages or restricts land use/management or adversely affects ecological processes.	Sediment deposition is sufficiently reduced to maintain desired land use/management and ecological processes.	Acres/Year – average annual acres of sediment deposition reduced for the field or planning area/unit
Water Quantity – Rangeland Hydrologic Cycle	The capacity to capture, store, and safely release water from rainfall, run-on, and snowmelt (where relevant).	Indicators of Rangeland Health Attribute rating for Hydrologic Cycle is Slight to Moderate or less departure from Ecological Reference Sheet (ESD).	Departure from Ecological Reference Sheet (ESD) categories – amount of departure, by numeric value, from Ecological Reference Sheet for the field or planning area/unit. 1=None to Slight, 2=Slight to Moderate, 3=Moderate, 4=Moderate to Extreme, or 5=Extreme.
Water Quantity – Excessive Seepage	Subsurface water oozing to the surface restricts land use and management.	Subsurface water is managed to limit periods of saturation that are unfavorable to the present or intended land use. Management complies with wetland policies.	Acres/Year – average annual acres of seep reduced for the field or planning area/unit
Water Quantity – Excessive Runoff, Flooding, or Ponding	The land becomes inundated, restricting land use and management.	Excess water amounts and/or rates of flow are controlled, consistent with desired present or intended land use goals and wetland policies.	Non Measurable

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Water Quantity – Excessive Subsurface Water	Water saturates upper soil layers, restricting land use and management.	Subsurface water is managed to limit periods of saturation compatible with the present or intended land use and wetland policies.	Non Measurable
Water Quantity – Drifted Snow	Wind-blown snow forms deposits and accumulates around and over surface structures, restricting ingress, egress, and conveyance of humans and animals.	Snowdrifts are reduced or prevented so as to allow ingress, egress, and conveyance of humans and animals.	Non Measurable
Water Quantity – Inadequate Outlets	Natural or constructed outlets are too small to remove excess water in a timely manner.	Outlets are designed, installed, upgraded or maintained to adequately convey water for present or intended uses.	Non Measurable
Water Quantity – Inefficient Water Use on Irrigated Land	Limited water supplies are not optimally utilized.	Land and water management is planned and coordinated to provide optimal use of natural and applied moisture.	Acre-Inches/Acre/Year – average annual acre-inches of water per acre used more beneficially for the field or planning area/unit
Water Quantity – Inefficient Water Use on Nonirrigated Land	Natural moisture is not optimally utilized.	Management provides optimum use of natural moisture for the present or intended land use.	Acre-Inches/Acre/Year – average annual acre-inches of water per acre used more beneficially for the field or planning area/unit
Water Quantity – Reduced Capacity of Conveyances by Sediment Deposition	Sediment deposits in ditches, canals, culverts, and other water conveyances reduce the desired flow capacity.	Conveyance structures are upgraded or maintained to adequately convey water for present or intended uses.	Cubic yards – volume of sediment in cubic yards removed to maintain water conveyances for the field or planning area/unit
Water Quantity – Reduced Storage of Water Bodies by Sediment Accumulation	Sediment deposits in water bodies reduce the desired volume capacity.	Water bodies and contributing source areas are treated to allow sufficient water storage for present and intended uses.	Acre-Inches/Year – average annual reduction in acre-inches in sediment deposition within water bodies for the field or planning area/unit
Water Quantity – Aquifer Overdraft	Water withdrawals exceed the safe yield for the aquifer.	Land and water management are coordinated to balance aquifer recharge and withdrawals to maintain the safe yield for the aquifer.	Acre-Inches/Year – average annual reduction in acre-inches of groundwater overdraft for the field or planning area/unit
Water Quantity – Insufficient Flows in Watercourses	Water flows are not consistently available in sufficient quantities to support ecological processes and	Authorized uses and management of water are coordinated to minimize the impacts on watercourse flows.	Non Measurable

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
	land use and management.		
Water Quality – Harmful Levels of Pesticides in Groundwater	Residues resulting from the use of pest control chemicals degrade groundwater quality.	Pesticides are applied, stored, handled, disposed of, and managed so that groundwater uses are not adversely affected.	Non Measurable
Water Quality – Excessive Nutrients and Organics in Groundwater	Pollution from natural or human-induced nutrients such as N, P, and S (including animal and other wastes) degrades groundwater quality.	Nutrients and organics are stored, handled, disposed of, and applied so that groundwater uses are not adversely affected.	Non Measurable
Water Quality – Excessive Salinity in Groundwater	Pollution from salts such as Ca, Mg, Na, K, HCO ₃ , CO ₃ , Cl, and SO ₄ degrades groundwater quality.	Salts are stored, handled, disposed of, applied, and managed so that groundwater uses are not adversely affected.	Electrical Conductivity (EC) – average reduction in EC for the field or planning area/unit
Water Quality – Harmful Levels of Heavy Metals in Groundwater	Natural or human-induced metal pollutants present in toxic amounts degrade groundwater quality.	Materials containing heavy metals are stored, handled, disposed of, applied, and managed so that groundwater uses are not adversely affected.	Non Measurable
Water Quality – Harmful Levels of Pathogens in Groundwater	Kinds and numbers of viruses, protozoa, and bacteria are present at a level that degrades groundwater quality.	Materials that harbor pathogens are stored, handled, disposed of, applied, and managed so that groundwater uses are not adversely affected.	Non Measurable
Water Quality – Harmful Levels of Petroleum in Groundwater	Fuel, oil, gasoline, and other hydrocarbons present in toxic amounts degrade groundwater quality.	Petroleum products are used, stored, handled, disposed of, and managed so that groundwater uses are not adversely affected.	Non Measurable
Water Quality – Harmful Levels of Pesticides in Surface Water	Pest control chemicals present in toxic amounts degrade surface water quality.	Pesticides are applied, stored, handled, disposed of, and managed so that surface water uses are not adversely affected.	Non Measurable
Water Quality – Excessive Nutrients and Organics in Surface Water	Pollution from natural or human induced nutrients such as N, P, and S (including animal and other wastes) degrades surface water quality.	Nutrients and organics are stored, handled, disposed of, and managed so that surface water uses are not adversely affected.	Non Measurable

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water	Excessive concentrations of mineral or organic particles, algae, or organic stains degrade surface water quality.	Delivery or suspension of mineral and organic particles, and excessive algae growth or organic stains, is managed such that surface water uses are not adversely affected.	Non Measureable
Water Quality – Excessive Salinity in Surface Water	Pollution from salts such as Ca, Mg, Na, K, HCO ₃ , CO ₃ , Cl, and SO ₄ degrades surface water quality.	Salts are stored, handled, disposed of, applied, and managed so that surface water uses are not adversely affected.	Electrical Conductivity (EC) – average reduction in EC for the field or planning area/unit
Water Quality – Harmful Levels of Heavy Metals in Surface Water	Natural or human-induced metal pollutants are present in toxic amounts that degrade surface water quality.	Materials containing heavy metals are stored, handled, disposed of, applied, and managed so that surface water uses are not adversely affected.	Non Measurable
Water Quality – Harmful Temperatures of Surface Water	Undesired thermal conditions degrade surface water quality.	Use and management of land and water are coordinated to minimize impacts on surface water temperatures.	Non Measurable
Water Quality – Harmful Levels of Pathogens in Surface Water	Kinds and numbers of viruses, protozoa, and bacteria are present at a level that degrades surface water quality.	Materials that harbor pathogens are stored, handled, disposed of, applied, and managed so that surface water uses are not adversely affected.	Non Measurable
Water Quality – Harmful Levels of Petroleum in Surface Water	Fuel, oil, gasoline, and other hydrocarbons present in toxic amounts degrade surface water quality.	Petroleum products are used, stored, handled, and disposed of so that groundwater uses are not adversely affected.	Non Measurable
Air Quality – Particulate matter less than 10 micrometers in diameter (PM 10)	Particulate matter less than 10 micrometers in diameter are suspended in the air, causing potential health hazards to humans and animals.	Land use and management operations reduce PM-10 emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of reduced PM-10 emissions for the field or planning area/unit
Air Quality – Particulate matter less than 2.5 micrometers in diameter (PM 2.5)	Particulate matter less than 2.5 micrometers in diameter are suspended in the air, causing potential health hazards to humans and animals.	Land use and management operations reduce PM-2.5 emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of reduced PM-2.5 emissions for the field or planning area/unit

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Air Quality – Excessive Ozone	High concentrations of ozone are adversely affecting human health, reducing plant yields, and creating smog.	Land use and management operations reduce ozone precursors and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of reduced ozone precursors emissions for the field or planning area/unit
Air Quality – Excessive Greenhouse Gas: CO₂ (carbon dioxide)	Increased CO ₂ concentrations are adversely affecting ecosystem processes.	Land use and management operations reduce CO ₂ emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Non Measurable
Air Quality – Excessive Greenhouse Gas: N₂O (nitrous oxide)	Increased N ₂ O concentrations are adversely affecting ecosystem processes.	Land use and management operations reduce N ₂ O emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Non Measurable
Air Quality – Excessive Greenhouse Gas: CH₄ (methane)	Increased CH ₄ concentrations are adversely affecting ecosystem processes.	Land use and management operations reduce CH ₄ emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Non Measurable
Air Quality – Ammonia (NH₃)	Animal waste and inorganic commercial fertilizers emit ammonia that contributes to odor, is a PM _{2.5} precursor, and contributes to acid rain.	Land use and management operations reduce NH ₃ emissions into the atmosphere and comply with requirements of all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of reduced NH ₃ emissions for the field or planning area/unit
Air Quality – Chemical Drift	Materials applied to control pests drift downwind and contaminate/injure non-targeted fields, crops, soils, water, animals and humans.	Land use and management operations reduce chemical drift into the atmosphere and comply with all applicable Federal, Tribal, State, and local regulations, and applicable label directions.	Non Measurable
Air Quality – Objectionable Odors	Land use and management operations produce offensive smells.	Odor-producing facilities and activities are planned and sited to mitigate potential nuisance impacts and meet all applicable Tribal, State, and local regulations.	Non Measurable

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Air Quality – Reduced Visibility	Sight distance is impaired due to airborne particles causing unsafe conditions and impeded viewing of natural vistas, especially in Class I viewing areas (primarily national parks and monuments).	Land use and management operations reduce particle emission into the atmosphere and comply with all applicable Federal, Tribal, State, and local regulations, including State and local smoke and/or burn management plans.	Non Measurable
Air Quality – Undesirable Air Movement	Wind velocities (too little or too much) reduce animal or plant productivity, impact human comfort and increase energy consumption.	Land use and management operations mitigate excessive or deficient air movement.	Non Measurable
Air Quality – Adverse Air Temperature	Air temperatures (too cold or too hot) reduce animal or plant productivity, impact human comfort and increase energy consumption.	Land use and management operations mitigate temperature extremes.	Non Measurable
Plants not adapted or suited	Plants are not adapted and/or suited to site conditions or client objectives.	<p>Selected plants are adapted to the soil and climatic conditions, or the site is modified to make it suitable for the desired plants. Plants are sustainable, do not negatively impact other resources, and meet client objectives.</p> <p>For specific land uses, additional criteria apply: Cropland: A healthy stand with vigorous growth. Yields 75% of client expectations.</p> <p>Rangeland: Plants on or planned for the site are listed in applicable Ecological Site Descriptions (ESD).</p> <p>Pastureland: Plants on or planned for the site have a site adaptation score greater than 3 using Pasture Condition Scoring (PCS) and are listed in applicable Forage Suitability Groups (FSG) reports.</p> <p>Hayland: Plants on or planned for the site are listed in applicable Forage Suitability Groups (FSG) reports.</p> <p>Forestland/Agroforest: Plants on or planned for the site are listed in Ecological Site Descriptions (ESD).</p>	Non Measurable

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Plant Condition – Productivity, Health and Vigor	Plants do not produce the yields, quality, and soil cover to meet client objectives.	<p>Selected plants on or planned for the site are sufficiently productive to meet or exceed client needs.</p> <p>For specific land uses, additional criteria apply: Cropland: A healthy stand with vigorous growth produces at least 75% of site potential.</p> <p>Rangeland: The plant community has a similarity index of at least 60% or an upward trend for similarity indices less than 60%.</p> <p>Pastureland: Forage yields are at least 75% of high management estimates cited in Forage Suitability Groups (FSG) reports.</p> <p>Hayland: Forage yields are at least 75% of high management estimates cited in FSG reports.</p> <p>Forestland/Agroforest: Forests consist of healthy stands with vigorous growth having a stand density within 25% of optimum stocking on a stems/acre basis. Plants chosen for Agroforest applications are consistent with Conservation Tree and Shrub Groups (CTSG) listings and height performance.</p>	Non Measurable
Plant Condition – Threatened or Endangered Plant Species: Plant Species Listed or Proposed for Listing under the Endangered Species Act	The site includes individuals, habitat or potential habitat for one or more plant species listed or proposed for listing under the Endangered Species Act.	Populations and/or habitats of Threatened and Endangered plant species are managed to maintain, increase or improve current populations, health, or sustainability.	Non Measurable

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Plant Condition – Threatened or Endangered Plant Species: Declining Species, Species of Concern	The site includes individuals, habitat or potential habitat for one or more plant species that the State or Tribal government with jurisdiction, or the State Technical Committee, has identified as a species of concern. This includes plant species that have been identified as candidates for listing under the Endangered Species Act.	Populations and/or habitats of plant species of concern are managed to maintain, increase, or improve current populations, health, or sustainability.	Non Measurable
Plant Condition – Noxious and Invasive Plants	The site has noxious or invasive plants present.	The site is managed to control noxious and invasive plants and to minimize their spread.	Non Measurable
Plant Condition – Forage Quality and Palatability	Plants do not have adequate nutritive value or palatability for the intended use.	Forage plants are managed to produce the desired nutritive value and palatability for the intended use.	Non Measurable
Plant Condition – Wildfire Hazard	The kinds and amounts of fuel loadings (plant biomass) pose risks to human safety, structures, and resources, should wildfire occur.	Fuel loadings are reduced and/or isolated to meet client needs in minimizing the risk and incidence of wildfire.	Acres/Year – average annual acres protected from wildfire for the field of planning area/unit
Fish and Wildlife – Inadequate Food	Quantity and quality of food are unavailable to meet the life history requirements of the species or guild of species of concern.	Food availability meets the life history requirements of the species or guild of species of concern.	Non Measurable; based on habitat evaluation guide
Fish and Wildlife – Inadequate Cover/Shelter	Cover/shelter for the species or guild of species of concern is unavailable or inadequate. This includes lack of hiding, thermal, and/or refuge cover.	The ecosystem or habit types support the necessary plant species in adequate diversity, abundance, and physical structure; and the connectivity of fish and wildlife cover is adequate to support, over time, the species or guild of species of concern.	Non Measurable; based on habitat evaluation guide
Fish and Wildlife – Inadequate Water	The quantity and quality of water is unacceptable for the species or guild of species of concern.	The quantity and quality of water meets the life history requirements of the species or guild of species of concern.	Non Measurable; based on habitat evaluation guide

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Fish and Wildlife – Inadequate Space	Lack of required areas disrupts the life history of the species or guild of species of concern.	Area is adequate to meet life history requirements of the species or guild of species of concern. (Examples: staging areas for rest and feeding, lekking areas for breeding, migratory movement corridors.)	Non Measurable; based on habitat evaluation guide
Fish and Wildlife – Habitat Fragmentation	Habitat has insufficient structure, extent, and connectivity to provide ecological functions and/or achieve management objectives.	Fish and wildlife habitats are connected and are maintained sufficiently to support the species or guild of species of concern.	Non Measurable; based on habitat evaluation guide
Fish and Wildlife – Imbalance Among and Within Populations	Populations are not in proportion to available quantities and qualities of food (plants, predator/prey), cover/shelter, water, and space and other life history requirements.	Land and water use and management are consistent with direct population management activities conducted by fish and wildlife agencies.	Non Measurable; based on habitat evaluation guide
Fish and Wildlife – Threatened and Endangered Fish and Wildlife Species: Fish and Wildlife Species Listed or Proposed for Listing under the Endangered Species Act	The site includes individuals, habitat or potential habitat for one or more fish or wildlife species listed or proposed for listing under the Endangered Species Act.	Populations and/or habitats of Threatened and endangered fish and wildlife species and/or habitats they occupy are managed to maintain, increase, or improve current populations, health, or sustainability.	Non Measurable
Fish and Wildlife – Threatened and Endangered Species: Declining Species, Species of Concern	The site includes individuals, habitat or potential habitat for one or more fish or wildlife species that the State or Tribal government with jurisdiction, or the State Technical Committee, has identified as a species of concern. This includes fish and wildlife species that have been identified as candidates for listing under the Endangered Species Act.	Populations and/or habitats of fish and wildlife species of concern are managed to maintain, increase, or improve current populations, health, or sustainability.	Non Measurable

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units
Domestic Animals – Inadequate Quantities and Quality of Feed and Forage	Total feed and forage are insufficient to meet the nutritional and production needs of the kinds and classes of livestock.	Feed and forage, including supplemental nutritional requirements, are provided to meet production goals for the kinds and classes of livestock. Native grazers are factored into the total feed and forage balance computations.	Non Measurable
Domestic Animals – Inadequate Shelter	Livestock are not protected sufficiently to meet the production goals for the kinds and classes of livestock.	Artificial and/or natural shelter is provided to meet production goals for the kinds and classes of livestock.	Non Measurable
Domestic Animals – Inadequate Stock Water	The quantity, quality and distribution of drinking water are insufficient to meet the production goals for the kinds and classes of livestock.	Sufficient water of acceptable quality is provided and adequately distributed to meet production goals for the kinds and classes of livestock. To reduce potential for water contamination, watering facilities are constructed or modified to minimize mortality to wildlife.	Non Measurable
Domestic Animals – Stress and Mortality	Animals exhibit illness or death from disease, parasites, insects, poisonous plants, or other factors.	Land and water use and management are consistent with activities conducted to alleviate stress and mortality factors.	Non Measurable
Water Quality – Colorado River Excessive Salinity	Colorado River Basin Salinity Control Program (CRBSC) tracks effects of improved irrigation techniques to reduce salt entering Colorado River waters that eventually flow into Mexico.		Tons/Acre/Year unit – average annual tons of salt entering Colorado River waters reduced per acre for the field or planning area/unit

PART 303 – NATIONAL COORDINATED COMMON RESOURCE AREA GEOGRAPHIC DATABASE

303.0 Purpose

- A. This instruction establishes technical guidance and minimum requirements for creating the National Coordinated Common Resource Area Geographic Database.
- B. The project should be completed by January 1, 2004.

303.1 Background

Common Resource Area (CRA) maps were prepared by several states in the mid 1990s. These digital and hard-copy maps have state-specific legends. They are used for various strategic conservation planning purposes. These maps are slated for national review and correlation because of the following deficiencies:

- (1) Not all states have existing CRA maps;
- (2) Maps and symbols are state specific and do not meet NRCS programmatic needs;
- (3) Some map data are nondigital and cannot be used in a Geographic Information System (GIS);
- (4) Locational accuracies of digital map data are inconsistent, do not meet national map accuracy standards, and should not be used with data layers developed at comparable scales;
- (5) Map units were designed using varying approaches and were not correlated to the national framework of Major Land Resource Area (MLRA) regions;
- (6) Metadata that meet a current Federal Geographic Data Committee (FGDC) Metadata Standard do not exist; and
- (7) National assessments using existing digital CRA maps are not possible at this time.

303.2 Purpose of the National Coordinated Common Resource Area Geographic Database

A. The purpose of the National Coordinated Common Resource Area geographic database is to provide a logical index and ready access to guidance documents for Section III of the electronic Field Office Technical Guide (eFOTG). The digital CRA map will provide map-based World Wide Web access to the eFOTG and CRA specific guidance documents, conservation plans, and resource management systems, making this information easily accessible to NRCS clients, partners, and technical service providers (GM450 C401).

B. A CRA map delineation is defined as a geographical area where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) map delineation or polygon. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a Common Resource Area (GM450 C401.21).

C. A National Coordinated CRA Geographic Database will provide:

- (1) A consistent CRA geographic database;
- (2) CRA geographic data compatible with other GIS data digitized from 1:250,000 scale maps, such as land use/land cover, political boundaries, Digital General Soil Map of the U.S. (updated STATSGO), and ecoregion boundaries;

- (3) A consistent (correlated) geographic index for Conservation Management Guide Sheet information and the eFOTG; and
- (4) A geographic linkage with the national MLRA framework.

303.3 Action Items

The timeline for major action items is provided in Chief Knight's August 13, 2003, memorandum regarding National Coordinated Common Resource Area Map (Exhibit A). A more specific list of action items is given here:

- (1) State conservationists will provide existing CRA map information to the National Soil Survey Center (NSSC).
- (2) The NSSC staff will prepare and send CRA base map information (current MLRA region and updated STATSGO polygon map – digital and hard copy) to state conservationists.
- (3) State conservationists will prepare digital revised CRA map information or develop new CRA map information and join consistently with the CRA maps of neighboring states. Regional technology specialists will facilitate this process among states.
- (4) MLRA Soil Survey Regional Office (MO) Leaders will correlate provisional state CRA legend symbols to National CRA legend symbols, CRA names, and primary distinguishing characteristics in the MLRAs for which they are responsible.
- (5) State conservationists will certify that digital CRA map information has been fully joined and correlated across state boundaries and meets the guidelines given in this document (NI.430–303, First Edition).
- (6) State conservationists will submit digital, certified state CRA map information to NSSC (see Exhibit B).
- (7) NSSC compiles a National CRA map from state CRA maps and sends the National CRA map to State conservationists for review and comment.
- (8) State conservationists review the National CRA map and return comments to NSSC.
- (9) NSSC incorporates review comments and prepares final National Coordinated CRA Map of the United States.

303.4 Responsibilities

Responsibilities for the coordination and development of the National CRA Geographic Database are outlined in Chief Knight's August 13, 2003, memorandum regarding National Coordinated Common Resource Area Map (Exhibit A).

303.5 CRA Map Unit Specifications

A. Delineations:

- (1) Approximate minimum area to be mapped is 400 square kilometers (40,000 hectares, or 98,724 acres); this is represented on a 1:1,000,000 scale base map by an area approximately 2 cm x 2 cm (.75 inch x .75 inch). Linear delineations should not be less than 0.5 cm (0.2 in) in width (5 km, or 3.1 miles). This standard is consistent with 5th order mapping (Soil Survey Manual, 1993). The Pacific and Caribbean Islands are excluded from the minimum delineation rule.
- (2) Political boundaries, such as county and state, will not be used as delineation boundaries.
- (3) Map units may occur in only one MLRA. Map units logically “nest” within MLRAs.
- (4) CRA delineations may be developed by grouping State Soil Geographic Database (STATSGO) polygons into CRA regions, thereby preserving a digital reference base scale of 1:250,000 or using an alternative 1:250,000 scale referenced digital map, such as

U.S. Environmental Protection Agency (EPA) Ecoregions level III and IV or U.S. Department of Agriculture Forest Service (USFS) National Hierarchy of Ecological Units (Subsections and Land Type Associations).

B. Delineation guidance:

- (1) In general, a different CRA delineation will reflect a change in potential resource concerns or risk for various land uses in the landscape.
- (2) Potential resource concerns and land-use related risks are often directly related to changes in soil parent materials, climate, aquifers, geology, physiography, vegetation, and land use patterns.
- (3) CRA delineations should be easily described by a “primary distinguishing characteristic” (PDC) statement. A PDC statement explains in a sentence or two, why CRA subdivisions differ from one another. The CRA name generally is a short version of the PDC statement.

303.6 CRA Labeling Conventions

A. The National CRA map delineation label is the MLRA symbol, followed by a dot and a numeric code (for example: 102C.3 or 72.6).

B. Provisional state CRA map delineation labels are similar to the National CRA labels, but they include the state alphabetic FIPS (Federal Information Processing System) code. For example, in Nebraska 106.NE2 may join 106.KS5 in Kansas.

C. Provisional state CRA map symbols are correlated to the National CRA legend symbols by the MO Leader responsible for the respective MLRA. In the Nebraska/Kansas example above, the resulting National CRA label symbol could be 106.3.

303.7 Compilation Base Map Materials and Information

A. 1:1,000,000 scale (1:3,500,000 scale for Alaska) paper maps provided by the NSSC illustrating MLRA regions and updated STATSGO polygons plus state and county lines draped on a shaded landform base map.

B. Digital map products (ESRI® ArcInfo map coverages and shape files) for updated STATSGO and MLRA Region polygons (original registered to a 1:250,000 scale U.S. Geological Survey base map) and alternative digital map products that share a 1:250,000 scale reference base map (EPA and USFS ecoregion type mapping).

C. PDF (portable document format) files for the 1:1,000,000 scale paper maps described in 303.7(a).

D. Red pencils to delineate and label CRA map polygons directly on the 1:1,000,000 paper base maps.

303.8 Compilation Procedures for Existing and New CRA Map Unit Delineations

A. Delineate CRA map units using various related national digital reference datasets. These include but are not limited to: landform maps (analytical hillshade calculated from Digital Elevation Models, geology maps, soil climate maps, plant hardiness maps, climate maps (30-year normals MAP and MAAT), EPA Ecoregion Level III and IV, USFS National Hierarchy of Ecological Units – Sections, Subsections and Land Type Associations, MLRA 2003 Regions,

Digital General Soil Map of the U.S. (STATSGO update), soil root zone available water capacity maps, and other digital and hard-copy maps available at the state level.

B. Draft CRA map unit lines and symbols using a red pencil on the 1:1,000,000 scale paper state base maps.

C. Label CRA map units with a state provisional symbol. Refer to section 303.6(b).

D. Contact regional technology specialists for assistance in organizing meetings with neighboring states to “join” CRA delineation symbols and concepts across state lines. This work is recorded on the base map with the joining state’s corresponding provisional state CRA symbol and in a spreadsheet file used to maintain a state list of correlated provisional CRA symbols.

E. Use the GIS to assign appropriate state provisional CRA symbol to selected updated STATSGO polygons (Digital General Soil Map of U.S.). Use the ‘prov_st_cra’ column name unless your state is using an alternative 1:250,000 scale registered digital map coverage.

- (1) If using an alternative 1:250,000 scale registered digital map coverage to create CRAs, (EPA level III and IV ecoregions, or USFS National Hierarchy Ecological Units – Subsections or Land Type Associations), please add two columns to the subject map coverage:

- prov_state_cra, 9 character, text field, and
- national_cra, 7 character, text field

- (2) Also, please use the state clipping coverages provided by the NSSC to subset a state coverage from one of these alternative 1:250,000 scale sources.

F. Contact MO Leaders responsible for MLRAs in your state and provide to the MO Leader the spreadsheet file of “joined” state provisional CRA symbols and the state CRA map with state provisional symbols at 1:1,000,000 scale.

G. For each nationally correlated CRA symbol, the MO Leader prepares a CRA name, generally taken from a local landscape feature (example: 65.3 – Sand Hills – Wet Meadow and Marsh Plain), and primary distinguishing characteristic statement. Each PDC statement should not exceed four brief sentences.

H. Each MO Leader prepares a final MO_CRA spreadsheet file that contains four columns: prov_st_cra (9 character text field), national_cra (7 character text field), national_cra_name (80 character text field), and national_cra_pdc (500 character text field).

- (1) This spreadsheet file is shared with appropriate states and coordinated with assistance from regional technology specialists.
- (2) A copy of the MO_CRA spreadsheet is also sent to the NSSC by the MO Leader. The naming convention for this file is MOx_CRA, where x = the MO number (e.g., MO9_CRA.xls for MO9 in Temple, Texas).
- (3) This information will be used for national correlation and naming of CRA map units.

I. State prepares and prints final CRA map with national symbols at a scale of 1:1,000,000. Alaska CRA proof plots will use a map scale of 1:3,500,000.

303.9 Transmittal of Nationally Correlated and Certified CRA State Map Information to NSSC (digital and hard copy)

A. Prepare and send a transmittal memo addressed to:

Robert J. Ahrens
Director, National Soil Survey Center

National Instruction

100 Centennial Mall North
Federal Building, Room 152, MS 32
Lincoln, NE 68508-3866

with the subject line of “SOI – National Coordinated Common Resource Area Map” and File Code: 430–17,” with a list of enclosures. Please include the name and title of a state contact person (phone and e-mail address).

B. Please enclose the following:

- (1) CD-ROM containing a single digital state clipped ESRI® .e00 or shape files with full projection information, with prov_st_cra, and national_cra attributes fully populated. (If using STATSGO, do not dissolve on any item.)
- (2) 1:1,000,000 scale state map similar to the original CRA base map illustrating new CRA map information with national CRA symbols (paper copy and PDF included on CD-ROM).
- (3) State certification letter signed and dated by the state conservationist.

C. The CD-ROM contents are also be transferred electronically to the NSSC ftp site. Please place files in proper state subfolder and send e-mail to Sharon.Waltman@usda.gov when files have been successfully transmitted to the ftp server. See instructions below to ftp CRA map project files to the NSSC ftp server:

- (1) Start an ftp session and connect with the following information:
Note that it is best to use the ftp Client software and NOT a browser.
Host: <ftp.nssc.nrcs.usda.gov>
Username: crauser
Password: (password will be provided to State Soil Scientists at a later date.)
- (2) Select the state subfolder you want to copy the files into: (Just double click on the correct folder).
- (3) Go back to My Computer and select the files to Copy.
- (4) Copy the files.
- (5) Paste the files into the correct state folder on the ftp server.
- (6) Disconnect the ftp session (save the session if it may be needed again).

National Instruction

Exhibit A

SUBJECT: SOI – National Coordinated Common
Resource Area Map

August 13, 2003

TO: Regional Conservationists File Code: 430
State Conservationists
Directors of Pacific Basin and Caribbean Areas
Center and Institute Directors
NHQ Division Directors and Above

ACTION REQUIRED BY: SEPTEMBER 12 AND OCTOBER 12, 2003

The National Soil Survey Center (NSSC) is coordinating the development of a digital Common Resource Area (CRA) map for the Nation. This national map is an important component of a new initiative to develop guidance documents for Section III of the electronic Field Office Technical Guide (eFOTG). The digital CRA map will provide map-based Web access to the eFOTG and CRA specific guidance documents, conservation plans and resource management systems, making this valuable information easily accessible to NRCS clients, partners, and technical service providers ([GM 450 C 401](#)).

States are requested to provide the information detailed in the attached timeline for the development of the digital Common Resource Area map of the Nation.

A CRA is a geographical area where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing MLRA map delineation or polygon. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographical boundaries of the common resource area ([GM 450 C 401.21](#)). The CRA naming convention is the MLRA symbol followed by a dot and a numeric code (for example 102C.3 or 72.6). The National CRA Map will be developed at a 1:250,000 scale.

NSSC will provide the states with MLRA map coverage and the State Soil Geographic Database (STATSGO) at 1:250,000 scale as map base materials. The STATSGO is considered useful in the MLRA subdivision process.

If you have any questions, please contact Robert J. Ahrens, Director of the National Soil Survey Center (402) 437-5389; bob.ahrens@nssc.nrcs.usda.gov or Sharon Waltman (402) 437-4007; sharon.waltman@nssc.nrcs.usda.gov.

/s/ Thomas A. Weber
for
BRUCE I. KNIGHT
Chief

Attachment

cc:

P. Dwight Holman, Deputy Chief for Management, NRCS, Washington, DC
Jose Acevedo, Deputy Chief for Programs, NRCS, Washington, DC
Lawrence E. Clark, Deputy Chief for Science and Technology, NRCS, Washington, DC
Maurice J. Mausbach, Deputy Chief for Soil Survey and Resource Assessment, NRCS,
Washington, DC
Katherine C. Gugulis, Deputy Chief for Strategic Planning and Accountability, NRCS,
Washington, DC
Wayne M. Maresch, Director, Soil Survey Division, NRCS, Lincoln, NE
Robert J. Ahrens, Director, National Soil Survey Center, MS 32, NRCS, Lincoln, NE
National Leaders, National Soil Survey Center, NRCS, Lincoln, NE
Sharon W. Waltman, Soil Scientist, NSSC, MS 35, NRCS, Lincoln, NE

National Instruction

Task	Start date	End date	Who	Where
1. NSSC sends states CRA map base information (MLRA and STATSGO maps @ 1:250,000)	8/05/2003	9/12/2003	NSSC	States
2. States having current CRA maps provide them to NSSC, and tell NSSC if they plan to use those as they are or if they plan modifications	8/12/2003	9/12/2003	State Conservationist	NSSC
3. States having current CRA maps provide modifications, others provide new CRA maps to NSSC. All CRA maps must be matched to surrounding states.	9/12/2003	10/12/2003	State Conservationist	NSSC
4. NSSC drafts National CRA Map and sends to states for review	10/12/2003	11/12/2003	NSSC	States
5. Final National CRA map is prepared	11/12/2003	1/1/2004	NSSC	States

Exhibit B

USDA NRCS Soil Survey Division
National Coordinated Common Resource Area Map of the United States Certification Letter for

State

USDA NRCS MLRA Soil Survey Region(s) Office

Map Compilation

1. The Common Resource Area geographic database maps were compiled to the NRCS specifications as described in National Instruction 430–303, First Edition.
2. The minimum size area mapped is 400 sq. km or 98,724 acres (2 cm x 2 cm on 1:1,000,000 scale map).
3. Linear delineations are not less than 5 km or 3.1 miles in width (0.2 inches or 0.5 cm) in width on 1:1,000,000 map.
4. National CRA map unit symbols and delineations match across state boundaries.
5. The national concept of CRA map units have been coordinated across state boundaries.
6. The Major Land Resource Area Soil Survey Region Office (MLRA Office) has worked with States to correlate provisional state CRA symbols to National CRA symbols among all adjacent states.

Spatial Data

1. Digitizing meets NRCS standards and specifications (reference 1:250,000 scale standard NI 430–302).
2. Quality control included a 100 percent edit of completed paper map.
3. A 100 per cent digital data review was done at the State office.
4. Soil and water boundaries are digitized within a 0.01-inch (0.254 mm) line width of the compiled boundary.
5. Where a CRA boundary line intersects a state boundary, the line matches the line in the adjoining state within 0.01-inch (0.254 mm) measured centerline to centerline.
6. Polygon map data are stored in a vector (line segment) format.
7. Map data are in ESRI shape file or interchange format (.e00) with full map projection information and metadata. File name is st_cra where “st” = state alphabetic FIPS code.
8. Map data are in a state coverage (clip cover provided by NSSC was used).
9. Map data and other information are being sent to the National Soil Survey Center with this letter.

Attribute Data

1. Two attributes are included and populated: prov_st_cra and national_cra as part of the digital CRA map.

I certify that the National Coordinated Common Resource Area (CRA) Map meets all of the above certification specifications and is ready for archiving and distribution for my state.

State Conservationist

Date